

# Servo motor EMMB-AS-60-04-S30MB

Part number: 8097184

FESTO



 General operating condition

## Data sheet

| Feature   | Value   |
|---|---|
| Ambient temperature   | -15 °C ... 40 °C  |
| Note on ambient temperature   | Up to 60 °C with derating of -1.5% per degree Celsius   |
| Max. installation height  | 4000 m  |
| Information on max. installation height                             | with 1,000 m and longer only with derating of -1.0% per 100 m   |
| Storage temperature   | -20 °C ... 55 °C  |
| Relative air humidity   | 0 - 90 %  |
| Conforms to standard  | IEC 60034   |
| Thermal class according to EN 60034-1                               | F   |
| Max. winding temperature  | 155 °C  |
| Rating class according to EN 60034-1                                | S1  |
| Temperature monitoring  | Digital motor temperature transmission via Nikon A format   |
| Motor type as per EN 60034-7  | IM V1<br>IM V3  |
| Mounting position   | Any   |
| Degree of protection  | IP65  |
| Note on degree of protection  | IP40 for motor shaft without rotary shaft seal<br>IP54 for motor shaft with rotary shaft seal<br>IP65 for motor housing without connection technology |
| Concentricity, coaxiality, axial runout according to DIN SPEC 42955 | N   |
| Balancing quality   | G 2.5   |
| Bearing lifetime, under nominal conditions                          | 20000 h   |
| Electrical connection 1, connection type                            | Plug  |
| Electrical connection 1, connection technology                      | Connection diagram RE   |
| Electrical connection 1, number of pins/wires                       | 6   |
| Electrical connection for input 1, connection pattern               | 00995792  |
| Contamination level   | 2   |
| Note on materials   | RoHS-compliant  |
| Corrosion resistance class (CRC)                                    | 0 - No corrosion stress   |
| LABS (PWIS) conformity  | VDMA24364 zone III  |
| Vibration resistance  | Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6  |
| Shock resistance  | Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27   |
| Certification   | c UL us - Recognized (OL)   |
| CE marking (see declaration of conformity)                          | As per EU EMC directive<br>As per EU low voltage directive<br>As per EU RoHS directive  |
| UKCA marking (see declaration of conformity)                        | To UK RoHS instructions<br>To UK instructions for electrical equipment  |

| Feature  | Value                        |
|--|------------------------------|
| Certificate issuing authority                                | UL E342973                   |
| Nominal operating voltage DC                                 | 300 V                        |
| DC nominal voltage   | 300 V                        |
| Type of winding switch                                       | Star inside                  |
| Number of pole pairs   | 3                            |
| Stall torque   | 1.4 Nm                       |
| Nominal torque   | 1.27 Nm                      |
| Peak torque  | 3.81 Nm                      |
| Nominal rotary speed   | 3000 rpm                     |
| Max. rotational speed  | 6000 rpm                     |
| Max. mechanical speed  | 10000 rpm                    |
| Motor nominal power  | 400 W                        |
| Continuous stall current                                     | 2.6 A                        |
| Motor nominal current  | 2.4 A                        |
| Peak current   | 7.2 A                        |
| Motor constants  | 0.562 Nm/A                   |
| Voltage constant, phase-to-phase                             | 34 mVmin                     |
| Phase-phase winding resistance                               | 5.8 Ohm                      |
| Winding inductance phase-phase                               | 11.5 mH                      |
| Electric time constant                                       | 1.98 ms                      |
| Measuring flange   | 255 x 255 x 8 mm, aluminum   |
| Total output inertia moment                                  | 0.425 kgcm <sup>2</sup>      |
| Product weight   | 1900 g                       |
| Permissible axial shaft load                                 | 90 N                         |
| Permissible radial shaft load                                | 180 N                        |
| Rotor position sensor  | Absolute encoder, multi-turn |
| Rotor position sensor for manufacturer designation           | MAR-MX50AHN00                |
| Rotor position encoder for absolutely detectable revolutions | 65536                        |
| Rotor position sensor interface                              | Nikon A-format               |
| Rotor position sensor measuring principle                    | Optical                      |
| Rotor position encoder for DC operating voltage              | 5 V                          |
| Rotor position encoder for DC operating voltage range        | 4.75 V ... 5.25 V            |
| Rotor position encoder for positional values per revolution  | 1048576                      |
| Rotor position sensor resolution                             | 20 bit                       |
| Rotor position encoder system accuracy angle measurement     | -120 arcsec ... 120 arcsec   |
| Brake holding torque   | 1.3 Nm                       |
| Brake DC operating voltage                                   | 24 V                         |
| Brake power consumption                                      | 7.2 W                        |